Collaborating for Clean Energy

How a New State-Federal Partnership Can Help Promote Energy Codes

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My Goals for This Presentation are to…

- Emphasize that states and municipalities are promoting clean energy to address a range of environmental and economic challenges, and to capture related benefits
- Tell you about a new EPA partnership with states to increase the use of cost-effective clean energy
- Highlight 3 ways in which states can promote codes as a way to boost clean energy and capture co-benefits
- Learn from you about ways that EPA can continue to promote building energy codes as a key clean energy approach for states

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EPA's State and Local Clean Energy Programs
Who we are and what we do…

- Located in EPA's State and Local Capacity Building Branch
- Emphasis on voluntary clean energy actions with state and local governments
  - Integrated energy-air quality planning
  - Agency collaboration on policy development & implementation
- Assist with local and state efforts that…
  - Improve AQ and public health
  - Increase energy efficiency and renewables
  - Promote economic development
  - Lower greenhouse gas intensity
- Provide tools and resources to measure these benefits
- Showcase results and partner successes
- Build and sustain peer networks
- Link-up to other EPA and DOE voluntary programs…

✓ ***More later on EPA's Clean Energy-Environment State Partnership…***

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ENERGY STAR

EPA GREEN POWER PARTNERSHIP

EPA CHP COMBINED HEAT AND POWER PARTNERSHIP

Why is Clean Energy a Smart Investment?

The benefits are numerous and substantial…

- **Energy**
  - Reduce energy demand
  - Stabilize energy prices
  - Improve electric system reliability
  - Enhance energy independence

✓Over 20 years, the Massachusetts Commercial Energy Code is expected to prevent: 7,478 tons of SO2, 2003 tons of NOx, 1.3 million tons of CO2

- **Economics**
  - Reduce costs for businesses and consumers
  - Job creation
  - Greater overall economic growth

✓By 2008, the Texas' Building Energy Performance Standards are projected to reduce NOX emissions by 21,000 tons

- **Environment and public health**
  - Improve air quality
  - Reduce greenhouse gas emissions

✓NY's Energy Conservation Construction Code (ECCC) reduces CO2 emissions by 517,000 tons per year and acid rain-causing SO2 by 493 tons/yr

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Why Clean Energy Now?

Factors are converging in favor of clean energy…

- **Energy Markets**
  - Primary energy demand expected to climb 36% by 2025
  - Gas prices expected to increase over time
- **Air Quality**
  - ~126 million people in counties where air unhealthy at times for ≥ 1 pollutant
- **Electricity Policy**
  - Billions to be spent on new transmission in coming decades
  - Reliability is widespread concern
- **Climate Policy**
  - US CO2 emissions expected to grow 39 percent by 2025

✓ ***Clean energy includes:***

- ***Energy efficiency***
- ***Renewable energy***
- ***Clean distributed generation (including combined heat and power)***

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Seizing the Opportunity

States are Municipalities are Innovating and Gaining Experience with Clean Energy Policies

- **Energy efficiency and other demand-side measures**
  - energy savings targets
  - energy portfolio standards
  - appliance standards
  - ***building codes***
- **Energy supply measures**
  - renewable portfolio standards (RPS)
  - clean distributed energy resources
  - uniform interconnection standards
  - output-based emission regulations
- **Financial strategies**
  - public benefits funds
  - loans
  - tax incentives
- **Power market rules and regulations**
  - decoupling utility profits from sales
  - portfolio management
  - integrated resource planning
  - transmission and reliability planning

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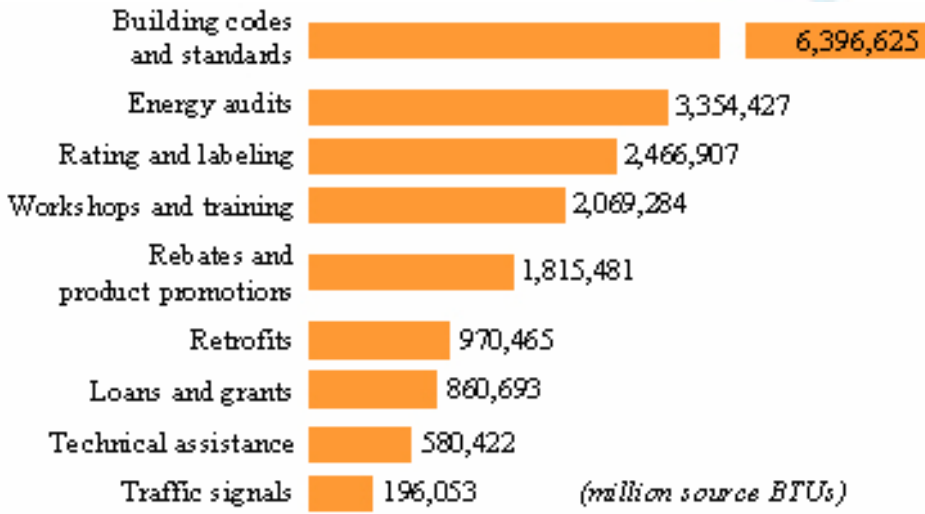
Building Energy Codes are Critical

States and Localities are Developing Successful Approaches…

- OR and WA rely on simplified, prescriptive approach verified by computer simulation
  - 94% of homes in Washington, 100% in Oregon met or exceeded code requirements for building envelope
  - 2006 IECC will be similar to OR model
- CA's Title 24 performance-based standards are successful:
  - Stringent
  - Achieve field performance
  - Actively supported and enforced

✓A DOE study found building codes and standards, among all SEP activities, to result in the greatest savings per dollar.



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Building Energy Codes are Critical

… and Getting Results

- CA 2005 building efficiency standards projected annual savings:
  - 180 megawatts of electrical demand
  - 475 gigawatt-hours of electrical energy
  - 8.8 million therms of natural gas

- TX cities reaping savings from SB5
  - Houston saving > 40 million kWh through lighting and other projects
  - Fort Worth energy consumption in 2002 was 9.4% lower than in 2001
  - Dallas County invested $6.4 million; getting ~ $920,000 annually in energy savings

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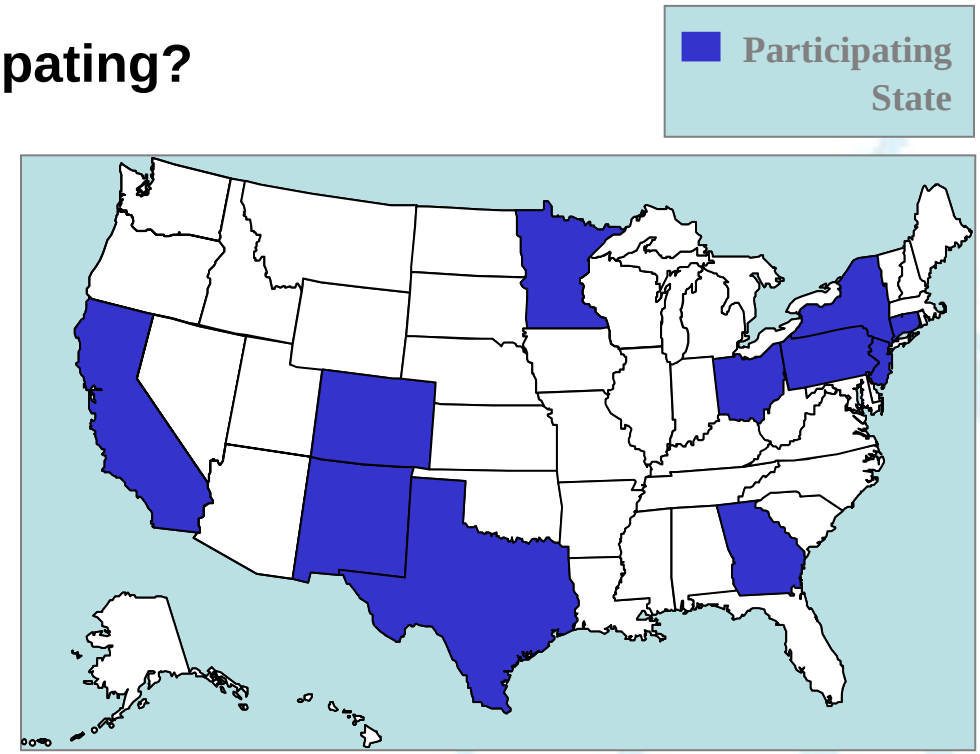
The Clean Energy-Environment State Partnership

✓ ***On the Web: http://www.epa.gov/cleanenergy/stateandlocal/partners.htm***

- **What is the Partnership?**
  - A voluntary state-federal partnership that helps states promote cost-effective clean energy to achieve economic, public health, and environmental goals

- **Why are States Participating?**
  - Provides a platform for promoting clean energy policies that:
    - Improve air quality and public health
    - Reduce energy use and GHGs
    - Enhance economic development
  - EPA helps



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Clean Energy-Environment State Partnership – *Key Program Elements*

- **Partner commitments*:**
  - 1 or more state agencies sign MOU with EPA
  - Foster collaboration among state agencies
  - Establish 1 or more clean energy goals
  - Develop and implement clean energy-environment action plan
  - Conduct analysis
    - Work with EPA to evaluate options and measure benefits
- **In return, EPA provides:**
  - Tools and analysis
  - Clean Energy-Environment Guide to Action
  - State-to-state peer exchange and communication support
  - Information about funding opportunities and related clean energy resources
  - National recognition

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each step represents an opportunity for code officials to get involved…

Opportunity for Promoting Codes – *Collaborate with State Agencies in Partnership*

- **What is the "state collaborative process"?**
  - Forum for state agencies to work together
    - Outline clean energy goals
    - Develop ***Clean Energy-Environment Action Plan***
  - Participating agencies typically include, but not limited to:
    - Environment
    - Energy
    - PUC
- **Why Should Code-Administering Agencies Get Involved?**
  - Opportunity to promote code upgrades and new codes
  - Leverage other state clean energy policies and goals, for example:
    - Public benefit funds
    - Clean air Strategies
  - Teach and learn from other states and localities

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Opportunity for Promoting Codes – *Help Develop the Partnership Action Plan*

- **What is the a Clean Energy-Environment Action Plan?**
  - Document that provides a state-specific blueprint for clean energy policies and goals
  - The plan…
    - Identifies barriers, opportunities, and strategy for action
      - Energy efficiency
      - Renewables, other clean supply
    - Includes an evaluation of each measure's costs and benefits
- **Why Should Code Advocates Participate?**
  - Codes provide cost-effective efficiency improvements
  - Code advocates can help ensure that:
    - Realistic goals are set
    - Implementation plan is strategic
    - Proper measurement, evaluation and reporting systems are in place

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Opportunity for Promoting Codes – *Use Partnership Resources: "Guide to Action"*

- **What is the Guide to Action?**
  - Provides in-depth summaries of 14 clean energy policies pertaining to:
    - Energy efficiency
    - Energy supply
    - Electricity market rules
    - Cross-cutting actions
  - Outlines examples, results, and lessons-learned
  - Is relevant to a wide range of state experience with EE, RE, and clean DG

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Opportunity for Promoting Codes – *Use Partnership Resources: "Guide to Action"*

- **How Does the Guide Promote Energy Codes?**
  - Characterizes energy-savings and economic benefits
  - Provides real-world results and state-by-state code status
  - Highlights case studies (i.e., CA, TX, OR, WA)
  - Describes best-practices:
    - For developing and adopting energy codes
    - For energy code implementation
    - Differentiates between upgrades and new codes
  - Identifies key players and their roles
  - Provides tips on running a collaborative process for code adoption
  - Outlines options for monitoring & evaluation
- **In Progress – August '05 Release**

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Opportunity for Promoting Codes – *Use Partnership Resources: "SIP Guidance"*

- **New document:** "*Guidance on State Implementation Plan (SIP) Credits for Emission Reductions from Electric-Sector Energy Efficiency and Renewable Energy Measures*"
- Supports efforts to include EE/RE projects, policies, and programs in SIPs
  - Specifically mentions building codes as qualifying project
- Guidance includes:
  - General information and background
  - Step-by-step procedure
  - List of tools and resources
  - Examples of proposed SIP submissions
- On the Web: http://www.epa.gov/ttn/oarpg/t1/memoranda/ereseerem_gd.pdf
  - Also see "*Emerging & Voluntary Measures Policy*": http://www.epa.gov/ttn/oarpg/t1/memoranda/evm_ievm_g.pdf

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SIP Guidance Example – *Quantifying SIP Credit from TX Building Energy Code*

- TX SB 5 aims to reduce air pollution by establishing state's first building code
  - IRC is standard for single-family construction
  - IECC is standard for other residential and C&I construction
- IECC cooling energy savings are substantial
  - Electricity reductions from the solar heat gain standard alone projected to reduce 1.8 billion kWh over 20 years
- Texas A&M developed emissions calculator to assist communities in evaluating and quantifying air benefits of code amendments
  - Reports reductions to TX PUC and the Texas Natural Resources Conservation Commission
- Code approved for emissions credits from EPA in the SIP for ozone pollution
  - 0.5 tons per day of NOx (ozone precursor)
  - First time an energy code adopted by a state specifically to improve air quality

Opportunity for Promoting Codes – *Use Partnership Resources: Technical Forum*

- **What is the Technical Forum?**
  - **Peer exchange among state policymakers**
    - Policy-targeted, facilitated conference calls
    - Reports and white-papers
  - **Goal is to help states**
    - Learn from each other
    - Identify the most productive policies, programs, technologies
    - Quantify the costs and benefits of EE/RE measures
    - Overcome barriers and provide effective incentives for EE/RE
- **How can Code Officials Engage in the Technical Forum?**
  - Participate in conference calls
  - Identify connections between building energy codes and other energy efficiency policies
- **Other Peer Exchange on the Horizon**

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Main Points

- Clean energy is critical
  - Includes: energy efficiency, renewables, clean distributed generation
  - Furthers: economic and environmental sustainability
  - Achieved through: integrated energy-air quality policies, programs, and partnership collaboration
- Codes are a cost-effective strategy for capturing clean energy benefits
  - Successful examples and best-practices exist
  - Collaboration fosters code development and adoption
- The Clean Energy-Environment State Partnership can help
  - 3 resources are outlined above
- We want feedback on ways to ensure that Partner States maximize savings from building energy codes

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We Want to Know How Can EPA Help – *Questions for Discussion*

Your feedback can ensure that our efforts are effective:

- How can we enhance collaboration among code, energy, and environmental experts in your state?
- What resources do code and energy staff need to characterize the environmental benefits of building codes?
- What other products or forums would help state and local governments assess these opportunities?
- Other suggestions for how EPA can help?

Feedback here… or later…

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For More Information

How Can I Get More Information or Provide Feedback?

- EPA's State Clean Energy-Environment Partnership Program:
  - www.epa.gov/cleanenergy/stateandlocal/partners.htm

- Contact me: Julie Rosenberg
  State and Local Capacity Building Branch
  U.S. Environmental Protection Agency
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To learn more about state-specific clean energy activities and policy options:

- www.epa.gov/cleanenergy
- www.eere.energy.gov/state_energy_program

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